

REMARKS/ARGUMENTS

35 USC §102

The Office rejected **claims 1-2, 4-7, and 9-10** as being anticipated under 35 USC §102(b) by Green et al. (U.S. Pat. No. 4,991,521). The applicant respectfully disagrees, especially in view of the amendments herein.

As amended, claim 1 expressly requires that the regenerator includes a "...*first section* configured to *receive a carbon-contaminated catalyst* and to receive an *oxygen-containing gas* at a flow rate to allow for *co-current catalyst regeneration*..." Such elements are clearly neither taught nor suggested by Green. To the contrary, Green employs counter-current flow of the catalyst and the oxygen-containing gas.

Moreover, amended claim 1 also expressly requires that the "...the first width and first volume and the second width and second volume are *configured such that* at the flow rate (a) the oxygen-containing gas has a residence time *in the first section* effective to *selectively produce carbon monoxide* from the carbon-contaminated catalyst, (b) the oxygen-containing gas has a residence time *in the second section* effective to *produce carbon dioxide from the carbon monoxide*...". Again, such elements are clearly neither taught nor suggested by Green. To the contrary, the conditions in Green's regenerator are such that conversion from carbon to CO₂ is complete in the first section and lower portion of the second section. Under no circumstances will Green's configuration allow selective oxidation of carbon to CO in the first section. The applicant draws attention to the definition on page 5, line 11 *et seq.* with respect to the term "selectively produce carbon monoxide from the carbon-contaminated catalyst". For at least these reasons, amended claims 1-2, 4-7, and 9-10 should not be deemed as being anticipated by Green et al.

The Office rejected **claims 13, 16-17, and 19** as being anticipated under 35 USC §102(b) by Green et al. The applicant again respectfully disagrees, especially in view of the amendments herein.

As amended, claim 13 expressly requires a step of "...*feeding a carbon-contaminated catalyst and an oxygen-containing gas* at a predetermined flow rate *to the first section to co-*

currently regenerate the catalyst in the first section...". Clearly, such limitations are neither taught nor suggested by Green. On the contrary, Green regenerates in counter-current flow over at least two sections. For at least this reason, amended claims 13, 16-17, and 19 should not be deemed as being anticipated by Green et al.

35 USC §103

The Office rejected **claims 3, 8, 11-12, 14, 18, and 20** as being obvious under 35 USC §103(a) over Green in view of Scott (U.S. Pat. No. 4,313,848). Once more, the applicant respectfully disagrees, especially in view of the amendments herein.

As amended, claim 1 (and claims 3, 8, and 11 by virtue of their dependence on amended claim 1) expressly requires that the regenerator includes a "*...first section configured to receive a carbon-contaminated catalyst and to receive an oxygen-containing gas at a flow rate to allow for co-current catalyst regeneration...*" Similarly, amended claim 12 expressly requires that "*... the first section is further configured to receive a carbon-contaminated catalyst and to receive an oxygen-containing gas to thereby allow for co-current catalyst regeneration in the first section...*" Likewise, amended claim 13 (and claims 14, 18, and 20 by virtue of their dependence on amended claim 13) expressly require "*...feeding a carbon-contaminated catalyst and an oxygen-containing gas at a predetermined flow rate to the first section to co-currently regenerate the catalyst in the first section...*".

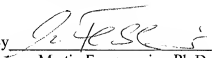
Neither Green nor Scott teach or suggest such specific arrangement. Consequently, as both references fail to teach or suggest all of the limitations of the present claims, obviousness can not be properly established. Still further, it should be especially noted that both references are necessarily bound to reaction control via limiting oxygen supply. In contrast, in the presently claimed subject matter, reaction control is kinetic and residence time of the catalyst in the oxygen-containing gas is the predominant factor. Such principles are entirely incompatible. Thus, the cited art completely fails to provide any suggestion or motivation to modify the devices and methods by Green and Scott such as to arrive at the presently claimed subject matter. Therefore, claims 3, 8, 11-12, 14, 18, and 20 should not be deemed obvious over Green in view of Scott.

Request For Allowance

Claims 1-20 are pending in this application. The applicant requests allowance of all pending claims.

Respectfully submitted,
Fish & Associates, PC

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By 
Martin Fessenmaier, Ph.D.
Reg. No. 46697

Fish & Associates, PC
2603 Main Street, Suite 1050
Irvine, CA 92614-6232
Telephone (949) 253-0944
Fax (949) 253-9069